

Notice of Allowability

Application No.

10/706,962

Examiner

Geoffrey S Evans

Applicant(s)

MIYAKE ET AL.

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of the application.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 14 November 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

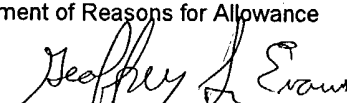
* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 20031114
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Geoffrey S. Evans
Primary Examiner
Group 1700

REASON'S FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: Warwick in U.S. Patent No. 2,385,665 uses air flow to rotate a fan connected to a spindle (see column 2, lines 40-48). Shih in U.S. Patent Application Publication No. 2003/0019844 discloses a motor attached to a spindle. Hara et al. in Japan Patent document No. 2000-218,442 discloses an electric discharge machine with a spindle and magnetic actuators for moving the spindle and hence the electrode. Imai et al. in WO 02/024389 (the same patent family as U.S. Patent No. 6,788,019) discloses an electric discharge machining device with a tool electrode, a drive shaft connected with the electrode, and an electrode driving device having magnetic bearings for moving. Regarding claims 1-4 and 6, none of the references of record discloses or suggests, alone or in combination, an electric discharge machining apparatus comprising: a tool electrode; a drive shaft connected with said tool electrode; an electrode driving device having magnetic bearings for moving said drive shaft in three directions; a movable coupling connected with an end of said drive shaft and movable in said three directions; and an electric motor connected with an end of said coupling for driving said drive shaft to rotate through said coupling. Regarding claim 5, none of the references of record discloses or suggests, alone or in combination, an electric discharge machining apparatus comprising: a tool electrode; a drive shaft connected with said tool electrode; an electrode driving device having magnetic bearings for moving said drive shaft in at least

a Z-axis direction, among three directions, including the Z-axis direction, a Y-axis direction that perpendicularly crosses the Z-axis direction, and an X-axis direction that perpendicularly crosses the Y-axis direction and the Z-axis direction; and an electric motor for driving said drive shaft to rotate through a rotation transmission mechanism connected with said drive shaft. Regarding claims 7-9, none of the references of record discloses or suggests, alone or in combination, an electric discharge machining apparatus comprising: a tool electrode; a drive shaft connected with said tool electrode; an electrode driving device having magnetic bearings for moving said drive shaft in at least a Z-axis direction, among three directions, including the Z-axis direction, a Y-axis direction that perpendicularly crosses the Z-axis direction, and an X-axis direction that perpendicularly crosses the Y-axis direction and the Z-axis direction; a plurality of blades fixedly secured to said drive shaft; and a rotation driving conduit having a tip end directed to said blades for guiding fluid toward and proximate said blades to spray fluid on said blades and rotate said drive shaft. In particular, there is no motivation to combine Imai et al. in WO 02/024389 in view of Warwick in U.S. Patent No. 2,385,665 to meet the limitations of claim 7.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (571)-

Art Unit: 1725

272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571)-272-1171. The fax phone number for the organization where this application or proceeding is assigned is (703)-872-9306.

GSE



Geoffrey S. Evans
Primary Examiner
Group 1700